

**City of San José**  
**CLASS SPECIFICATION**

**TITLE: Network Engineer (1328)**

**Network Engineer C (8555)**

**Network Engineer C PT (8556)**

**Network Engineer PT (1329)**

DEPARTMENT	ACCOUNTABLE TO	FLSA STATUS
Information Technology and Other Departments, as required	Varies	Non-Exempt

**CLASS SUMMARY**

Performs technical work of complex difficulty to provide desktop, server or network support to end users. Coordinates the provision of a variety of information systems data that may include the evaluation, planning, design and implementation of existing and new systems for multi-use, each having specific individual or competing requirements or integrated functions. Performs administrative duties such as preparation of schedules, reports, procedures manuals, etc. May supervise Network Technicians and other lower level staff. May do some programming such as database queries, web applications or department-specific systems. Performs related work as required.

**DISTINGUISHING CHARACTERISTICS**

This is the highest level in the Network series. This class differs from the Senior Systems Application Programmer in that the latter performs programming analytic work of considerable difficulty on an ongoing basis. This class deals with local/wide area networks with multiple servers and network segments, systems administration or desktop support and administration. It differs from the Network Technician I and II in that incumbents of the latter perform work requiring a lesser level of skill, responsibility, and expertise with less supervisory requirements and may be supervised by incumbents of this class.

**QUALIFICATIONS**

**(These qualifications are typically required. An equivalent combination of education, experience, knowledge, skills, and abilities sufficient to satisfactorily perform the duties of the job may be substituted.)**

**Minimum Qualifications**

**Education and Experience**

A Bachelor's Degree from an accredited college or university in Business Administration, Public Administration, Computer Technology, or a closely related field and three years of experience at the level of Network Technician II with the City of San Jose (two years of related experience may be substituted for up to two years of the education requirement.)

**Required Licensing (such as driver's license, certifications, etc.)**

- Possession of a valid California Driver's License.
- Possession of a Microsoft Certified Systems Administrator (MCSA) certificate or an equivalent professional, industry recognized certification. Examples of equivalent certifications include but are not limited to: Cisco Certified Network Professional (CCNP).

**City of San José**  
**CLASS SPECIFICATION**

**TITLE: Network Engineer (1328)**

**Network Engineer C (8555)**

**Network Engineer C PT (8556)**

**Network Engineer PT (1329)**

**Other Qualifications**

**(Incumbents may be required to have different combinations of the listed qualifications, or more specific job-related qualifications depending on the position.)**

**Basic Knowledge, Skills and Abilities**

**(Needed at entry into the job in order to perform the essential duties.)**

- Knowledge of Voice over IP equipment, implementation and support methods.
- Knowledge of current trends and techniques of office automation and LAN/WAN technologies.
- Knowledge of the general principles, methods and techniques of systems analysis and management as applied to automated or manual information systems and systems analysis project control techniques.
- Expertise in advanced desktop support techniques and methods, including CPUs, peripherals, software and networking.
- Expertise in networking protocols and their implementation in enterprise networks and applications.
- Expertise in deploying and maintaining multiple server operating systems and server hardware environments.
- Expertise in deploying and maintaining enterprise messaging systems.
- Ability to communicate effectively both orally and in writing.
- Ability to establish and maintain effective working relationships with others.
- Ability to lead others in work.
- Ability to resolve complex technical issues using creative methods.
- Ability to create and implement a server maintenance regimen, including backups, restores and best practices for data management.

**Desirable Qualifications**

**(Knowledge, skills and abilities; licenses, certificates, education, experience that is more position specific and/or likely to contribute to more successful job performance.)**

- Knowledge of theory and implementation practices of local area network and wide area networks.
- Knowledge of SNMP and its application to large networks.
- Knowledge of network management principles and practices.
- Knowledge of data communication principles.
- Knowledge of the internet and internet applications.
- Knowledge of specific departmental systems programs and equipment and systems applications--if assigned to support a specific department.
- Knowledge of information systems providers/vendors and their products.
- Knowledge of the principles and practices of training and supervision.

**City of San José**  
**CLASS SPECIFICATION**

**TITLE: Network Engineer (1328)**

**Network Engineer C (8555)**

**Network Engineer C PT (8556)**

**Network Engineer PT (1329)**

- Knowledge of the basic steps for project planning and implementation.
- Expertise in deploying and managing routers and switches.
- Expertise in configuring, installing, managing and supporting multi-segmented large local area and wide area networks.
- Expertise in assisting other employees in technical and procedural activities.
- Expertise in evaluating desktop, network and server components including hardware and software for possible purchase.
- Expertise in obtaining performance metrics and applying them to performance measures.
- Ability to evaluate departmental information systems needs and communicate user needs to consultants, providers and/or vendors.

<b>DUTY NO.</b>	<b><u>TYPICAL CLASS ESSENTIAL DUTIES:</u> (These duties and estimated frequency are a representative sample; position assignments may vary depending on the business needs of the department.) Duties may include, but are not limited to, the following:</b>	<b>FREQUENCY*</b>
1.	Evaluates and specifies desktop hardware.	Frequently
2.	Upgrades operating systems & configures software.	Frequently
3.	Installs and configures printers and makes them accessible to all people within the network environment. (Sets up print queues, installs drivers, etc.)	Occasionally
4.	Evaluates and monitors cost of acquisition of computer-related items to obtain the best results, meet budget and ensure systems compatibility.	Occasionally
5.	Installs and configures servers, including hardware and software. Hardware installation/setup may include creating drive arrays, installing devices, setting up data recovery systems. Software and network installation/setup may include installing operating systems and databases or configuring WINS, DNS and DHCP.	As required
6.	Specifies and configures hardware. Determine the purpose for which the hardware is being purchased and specify the proper configuration to most efficiently and cost effectively fulfill that purpose. A database server should have a different set-up from a Terminal Services server. <b>Example:</b> Proper RAID configurations for a oracle database server vs. an exchange	As required

**City of San José**  
**CLASS SPECIFICATION**

**TITLE: Network Engineer (1328)**

**Network Engineer C (8555)**

**Network Engineer C PT (8556)**

**Network Engineer PT (1329)**

<b>DUTY NO.</b>	<b><u>TYPICAL CLASS ESSENTIAL DUTIES:</u> (These duties and estimated frequency are a representative sample; position assignments may vary depending on the business needs of the department.) Duties may include, but are not limited to, the following:</b>	<b>FREQUENCY*</b>
7.	Monitors system performance for availability, speed, capacity, storage issues and security problems. Change the performance of systems and prevent the items shown above from becoming problems. Examples of actions include applying security patches, ensure security best practices are followed and restoring lost data (including data that is the most difficult to receive).	Frequently
8.	Implements a preventive maintenance routine identifying weaknesses of current system to help identify critical server issues. Sets up maintenance schedule.	Frequently
9.	Creates backup schedule, including type of backup performed on specific days. Creates disaster recovery plan for data and hardware. Restores Exchange mailboxes and edits permissions to mailboxes.	Frequently
10.	Resolves a variety of problems with servers such as lack of storage space, communication problems with switches (NBTSTAT), connectors, NetBios, security problems and other critical server issues. Coordinates resolution of problems.	As required
11.	Advises systems coordinators or application programmers on securing and designing server applications.	As required
12.	Develops and recommends design plan for LAN/WAN networks, including research and development of a capacity plan (number of users, applications needed, logistics, switch connectivity, routers, etc.)	As required
13.	Consults with outside application vendors to ensure data integrity and network security practices are implemented.	As required
14.	Configures routers, switches and firewalls.	As required
15.	Monitors network traffic, supports implemented network security and prepares reports with recommendations.	As required
16.	Troubleshoots intermediate and advanced problems with networks including problems with segmented networks, network communication problems and inter-network communications issues as well as server communications.	As required
17.	May supervise Network Technicians or other technical staff. Assists Technicians when tasks are too complicated for the Technician. May perform technician-level duties as required during the course of daily tasks.	As required
18.	Prepares and maintains procedure manuals.	As required

**City of San José**  
**CLASS SPECIFICATION**

**TITLE: Network Engineer (1328)**

**Network Engineer C (8555)**

**Network Engineer C PT (8556)**

**Network Engineer PT (1329)**

<b>DUTY NO.</b>	<b><u>TYPICAL CLASS ESSENTIAL DUTIES:</u></b> (These duties and estimated frequency are a representative sample; position assignments may vary depending on the business needs of the department.) Duties may include, but are not limited to, the following:	<b>FREQUENCY*</b>
19.	May provide technical support for the converged network (voice over Internet protocol) and work with multiple teams to resolve network or communication issues.	As required
20.	Performs other duties of a similar nature or level.	As required

\*Frequency defined as %, (totaling 100%) *or* “Continuous” (daily or approximately 20%+), “Frequent”(weekly or approximately 15%+), “Occasional”(monthly or approximately 10%+), “As Required”(Intermittent or 5% or less)

<b>CLASSIFICATION HISTORY</b> (11/96), (Rev. 7/97), (Rev. 11/97), (Rev. 11/01) (Rev. 6/06)
--